IV. "On the General Forms of the Symmetrical Properties of Plane Triangles." By THOMAS DOBSON, Esq., B.A., Head Master of the School-Frigate 'Conway,' Liverpool. Communicated by Capt. E. A. INGLEFIELD. Received December 3, 1861.

(Abstract.)

The symmetrical properties of plane triangles have been fully expounded in a series of six papers dated 1835, 1836, 1842, 1843, 1845, and 1848 respectively, in the 'Lady's and Gentleman's Diary,' published annually by the Stationers' Company of London. Either from being the work of different hands, or from the earlier papers having been written before the importance of symmetry in mathematical formulæ was duly appreciated, the series of papers leaves much to be desired as to uniformity of method.

By assuming the usual expressions for the area of a triangle, as in the present paper, with a few other expressions of an equally elementary nature, all the well-known symmetrical properties of plane triangles may be readily deduced, by a little skill in the combination of algebraical symbols, without leaving the plane of the triangle.

But the author has preferred to use a method which is at once general, simple, and uniform. This consists in referring the symmetrical points connected with a triangle to an indefinite plane, and establishing by an elementary process certain general formulæ, each of which can be made to yield several cognate plane properties when different definite positions are assigned to the plane of reference.

V. "Note on Ethylene-Dichloride of Platinum." By P. GRIESS, Esq., and C. A. MARTINS, Ph.D. Communicated by Dr. HOFMANN. Received December 16, 1861.

About thirty years ago, Zeise obtained, by the action of dichloride of platinum upon alcohol, a compound which he found to have the following composition,

$$C_2 H_4 Pt_2 Cl_2.$$

This formula was corroborated by the analysis of a series of compounds which this body forms with the chlorides of some of the